

EARLY DIAGNOSIS OF MICROELEMENT IMBALANCE IN NEWBORNS WITH RESPIRATORY DISTRESS SYNDROME

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Respiratory distress syndrome (RDS) gets the high rank in the neonatal mortality structure. It develops as the consequence after the surfactant deficiency state, but mostly the premature newborns obtain it. Microelement imbalance and deficiency provoke the disorders in vital processes as well as the postnatal life adaptation condition issues. The above mentioned statements give the background for investigation actuality of the premature newborn's microelement supply particularly those, who have RDS.

The object of the research is to study the peculiarities of essential microelements' levels (such as Fe, Zn, Cu, Co, Mn та Cr), which have the premature newborns with respiratory distress syndrome during the first two weeks of life. Under the investigation were 47 premature newborns with RDS. The gestation age of the studied groups was 28-36 weeks. The control group contains 12 healthy newborns. The microelements' levels (in serum, erythrocyte and urine) were identified with the atomic-absorption spectrophotometry method. As the equipment was used the spectrophotometer C-115M1, produced by JSC "Selmi", Ukraine. Under RDS can occur the significant changes of microelement contents and their rough imbalances, such as are Fe, Zn and Mn deficit in serum and erythrocyte. These media can be overfilled with Cu and Co. Moreover, blood serum is stuffed with Cr, while its six-time deficit is identified in erythrocyte. On a certain degree, Fe, Zn and Mn deficits and imbalances are determined by the significant increasing of renal excretion under this pathology. On the same time the high content of Co in erythrocyte and serum, as well as the high level of Cr in serum can occur because of the renal excretion depression. The morphofunctional immaturity of premature newborns with RDS is the most determining point of the microelements' deficiencies. Whereas, the prevailing influence on Fe, Zn, Cu, Co, Cr and Mn contents and balances in these media have the gestation age factor.